

**Amendment and Response**

Serial No. 10/019,643

Filed: December 28, 2001

Page 2

**METHOD AND COMPOSITION FOR AFFECTING REPRODUCTIVE SYSTEMS**

---

**Amendments to the Claims**

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1.-3. (Canceled)

4. (Currently Amended) A method for treating or preventing a reproductive disease, disorder, or condition in ~~an oocyte-producing organism~~ a bird comprising administering to the organism an immunogenic composition comprising ~~at least one component selected from the group consisting of~~ (a) a polypeptide comprising a zona pellucida protein or an immunogenic fragment thereof and ~~(b) a polynucleotide comprising a nucleotide sequence encoding a polypeptide comprising a zona pellucida protein or immunogenic fragment thereof.~~

5. (Canceled)

6. (Currently Amended) The method of claim [[5]] 4 wherein ~~the oocyte-producing organism is a bird and~~ wherein the reproductive disease, disorder or condition is selected from the group consisting of egg-binding disease, dystocia, egg-related peritonitis, oophoritis, neoplasia of the reproductive tract, prolapsed oviduct and cloaca, salpingitis, metritis, oviduct impaction, cloacal problems, cystic hyperplasia, ectopic egg formation, chronic egg laying and undesirable behavior as a result of reproductive activity or reproductive problems.

7.-11. (Canceled)

12. (Previously Presented) The method of claim 4 wherein the zona pellucida protein is a glycoprotein.

13. (Previously Presented) The method of claim 4 wherein the zona pellucida protein is a naturally occurring protein.

**Amendment and Response**

Serial No. 10/019,643

Filed: December 28, 2001

Page 3

**METHOD AND COMPOSITION FOR AFFECTING REPRODUCTIVE SYSTEMS**

---

14. **(Previously Presented)** The method of claim 4 wherein the zona pellucida protein is a recombinant protein or synthetic protein.
15. **(Previously Presented)** The method of claim 4 wherein the zona pellucida protein comprises at least one zona pellucida protein selected from the group consisting of a porcine zona pellucida protein and an avian zona pellucida protein.
16. **(Previously Presented)** The method of claim 4 wherein the polypeptide further comprises a T cell epitope, a helper T cell or a B cell epitope.
17. **(Previously Presented)** The method of claim 4 wherein the immunogenic composition further comprises an adjuvant.
18. **(Original)** The method of claim 17 wherein the adjuvant is selected from the group consisting of Freund's Complete Adjuvant, Freund's Incomplete Adjuvant, Freund's mycotoxin-free adjuvant, aluminum hydroxide, a cell wall extract derived from non-pathogenic *Mycobacteria* spp., a long-chain polydispersed  $\beta(1,4)$  linked mannan polymer interspersed with O-acetylated groups, permulium and synthetic trehalose dicorynomycolate (STDCM).
19. **(Original)** The method of claim 18 wherein the adjuvant is selected from the group consisting of aluminum hydroxide and STDCM.
20. **(Currently Amended)** The method of claim[[s]] 18 ~~wherein the organism is a companion bird, and~~ wherein the adjuvant is aluminum hydroxide.
21. **(Previously Presented)** The method of claim 4 wherein the immunogenic composition excludes an adjuvant.

*Amendment and Response*

Serial No. 10/019,643

Filed: December 28, 2001

Page 4

METHOD AND COMPOSITION FOR AFFECTING REPRODUCTIVE SYSTEMS

---

22. (Canceled)

23. (Previously Presented) The method of claim 4 wherein the immunogenic composition comprises a zona pellucida protein or immunogenic fragment thereof.

24.-26. (Canceled)

27. (Previously Presented) The method of claim 4 wherein the immunogenic composition comprises an immunogenic conjugate comprising a zona pellucida protein or a fragment thereof, conjugated to a carrier molecule.

28. (Previously Presented) The method of claim 27 wherein the immunogenic conjugate is dually functional.

29. (Currently Amended) A method for affecting the reproductive system of ~~an oocyte-producing organism~~ a bird comprising administering to the organism an immunogenic composition comprising an immunogenic conjugate comprising a zona pellucida protein or fragment thereof conjugated to a carrier molecule, ~~wherein the oocyte-producing organism is selected from the group consisting of a bird, a fish, a reptile, an amphibian, an insect, an arachnid and an oocyte-producing parasite.~~

30.-40. (Canceled)